

REMARKS

The Examiner has rejected claims 1, 3 and 8 through 11 under 35 U.S.C. §102(e) as being anticipated independently by Ukaji et al. and Chiou et al. In addition, the Examiner has rejected claims 1, 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Morkel in view of Ukaji et al. Although the Examiner has indicated allowable subject matter in claims 2 and 4 through 7, the Applicants respectfully request the Examiner to consider the withdrawal of the pending rejections in view of the above claim amendments and the following remarks.

The Section 102 Rejections

The Examiner has rejected claims 1, 3 and 8 through 11 under 35 U.S.C. §102(e) as being allegedly anticipated independently by Ukaji et al. and Chiou et al. The Examiner has alleged that every subject matter of independent claims 1, 3, 10 and 11 has been disclosed by either of the cited references.

The Ukaji et al. reference discloses a wavelength-division-multiplex (WDM) optical transmission system. A retiming unit corrects the pulse width distortion of an optical signal generated in optical transmission through an optical fiber between two WDM optical transmission apparatus. The clocks are sampled in the retiming units from the electrical signals generated by optical to electrical conversion, and the clocks are phase-synchronized with use of phase lock loop (PLL) or narrow band filter so that the pulse width distortion is corrected to effect jitter compression. (lines 12 through 17, column 2).

The Chiou et al. reference discloses a cascaded line-of sight free-space optical network system. An enhanced version of the optical repeater block (ORB) device

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includes a pair of serializers/deserializers (DER/DES) 30, a phase lock circuit 32, and a reference clock 34. In order to re-time the data carried by the optical signals with respect to a reference clock signal from the reference clock 34, the phase lock loop circuit (PLL) 32 is coupled between the parallel output of the first SER/DES 30. The PLL 32 maintains a constant phase relative to a reference signal from the reference clock 34 while it synchronizes the assembly and disassembly of packet of bits in the processing channel of each optical repeater device. (lines 36 through 45, column 4).

In summary, the Ukaji et al. reference and the Chiou et al. reference both disclose only a single set of reference clock signals. The Ukaji et al. reference discloses a single set of reference clock signals that is sampled from the converted electrical signals for use in the phase-synchronization for correcting the width distortion. The Chiou et al. reference also discloses a single set of reference clock signals that is sampled from the converted electrical signals for use in the phase-synchronization for maintaining a constant phase during the assembly and disassembly of packets.

In sharp contrast to the above described disclosures in the Ukaji et al. reference and the Chiou et al. reference, currently amended independent claims 1, 8, 10 and 11 each now explicitly recite “a controller … for controlling” the clock generation unit “for selecting the one of the reference clock signals.” In other words, “the controller” selects a particular one from a plurality of the predetermined “reference clock signals” that is used in “generating a phase-synchronized clock signal.”

Similarly, currently amended independent claim 3 now explicitly recites “an auto-clock controller … for controlling the signal of said phase-synchronized oscillator circuit in selecting the one of the reference clocks.” In other words, “the auto-clock controller” selects a particular one from a plurality of the predetermined “reference clocks” that is used in “generating a clock signal.”

Neither the Ukaji et al. reference nor the Chiou et al. reference discloses the “controller” or as explicitly recited in currently amended independent claims 1, 3, 8, 10 and 11. As described above, both the Ukaji et al. reference and the Chiou et al. reference disclose the use of only a single reference clock signal that is detected in the transmission signal. Thus, both the Ukaji et al. reference and the Chiou et al. reference clearly fail to disclose “the controller” that selects a particular one from a plurality of the predetermined “reference clock signals” or “reference clocks” which is used in generating “a phase-synchronized clock signal” or “a clock signal.”

Based upon the above and other reasons, the Applicants respectfully submit to the Examiner that neither of the cited references fails to anticipate the “controller” as explicitly recited in currently amended independent claims 1, 3, 8, 10 and 11.

Dependent claim 9 depends from currently amended independent claim 8 and incorporates the above described patentable features of independent claim 8. Thus, the Applicants also respectfully submit that the pending rejections of claims 1, 3 and 8 through 11 under 35 U.S.C. §102(e) should be withdrawn.

The Section 103 Rejections

The Examiner has rejected claims 1, 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Morkel in view of Ukaji et al.

As already discussed above with respect to the section 102 rejections, The Ukaji et al. reference discloses a wavelength-division-multiplex (WDM) optical transmission system. A retiming unit corrects the pulse width distortion of an optical signal generated in optical transmission through an optical fiber between two WDM optical transmission apparatus. The clocks are sampled in the retiming units from the electrical signals generated by optical to electrical conversion, and the clocks are phase-synchronized with

use of phase lock loop (PLL) or narrow band filter so that the pulse width distortion is corrected to effect jitter compression. (lines 12 through 17, column 2).

The Morkel reference discloses a regenerator in an optical network for the 3R processing. The 3R processing is undertaken with a clock extract element 16 or typically a phase locked loop (PLL) circuit in combination with a D-type flip/flop circuit 18. Based upon the known techniques, the clock extract element 16 determines the frequency of the recovered signal and generates a clock signal at that frequency. (lines 28 through 34 in column 4).

In summary, the Ukaji et al. reference and the Morkel reference both disclose only a single set of reference clock signals. The Ukaji et al. reference discloses a single set of reference clock signals that is sampled from the converted electrical signals for use in the phase-synchronization for correcting the width distortion. The Morkel reference also discloses the determination of the frequency of the recovered signal and generates a clock signal at that frequency.

In sharp contrast to the above described disclosures in the Ukaji et al. reference and the Chiou et al. reference, currently amended independent claims 1, 10 and 11 each now explicitly recite “a controller … for controlling” the clock generation unit “for selecting the one of the reference clock signals.” In other words, “the controller” selects a particular one from a plurality of the predetermined “reference clock signals” that is used in “generating a phase-synchronized clock signal.”

Neither the Ukaji et al. reference nor the Morkel reference discloses the “controller” as explicitly recited in currently amended independent claims 1, 10 and 11. As described above, both the Ukaji et al. reference and the Morkel reference disclose the use of only a single reference clock signal that is detected in the transmission signal. Thus, both the Ukaji et al. reference and the Morkel reference clearly fail to disclose “the

controller" that selects a particular one from a plurality of the predetermined "reference clock signals" which is used in "generating a phase-synchronized clock signal."

Based upon the above and other reasons, the Applicants respectfully submit to the Examiner that the cited references alone or in combination fail to disclose, teach or suggest the "controller" as explicitly recited in currently amended independent claims 1, 10 and 11. Thus, it would not have been obvious to one of ordinary skill in the art to provide the "controller" as explicitly recited in currently amended independent claims 1, 10 and 11 based upon the combined disclosures of the cited references. Therefore, the Applicants also respectfully submit that the pending rejections of claims 1, 10 and 11 under 35 U.S.C. §103(a) should be withdrawn.

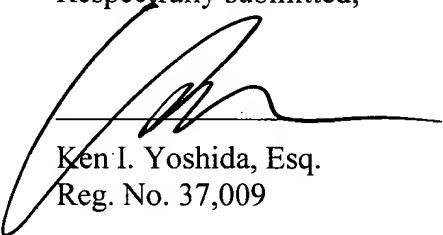
Objected Claims

Furthermore, the subject matter limitations of now cancelled dependent claims 2, 4, 6 and 7 have been respectively recited in newly added independent claims 16, 17, 18 and 19. The Examiner has indicated allowable subject matter in objected dependent claims 2, 4, 6 and 7, and these allowable subject matter limitations have been incorporated into independent claims 16, 17, 18 and 19 along with those of their respective independent claims as the Examiner has indicated. Thus, the Applicants respectfully submit that the newly added independent claims should be also allowable.

Conclusion

In view of the above amendments and the foregoing remarks, Applicant respectfully submits that all of the pending claims are in condition for allowance and respectfully request a favorable Office Action so indicating.

Respectfully submitted,



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